



# Australian Bureau of Statistics

## **1352.0.55.038 - Research Paper: Cost and variance modelling for the 2001 redesign of the monthly Population Survey - Part B (Methodology Advisory Committee), Jun 2001**

Latest ISSUE Released at 11:30 AM (CANBERRA TIME) 20/05/2002 First Issue

---

## Summary

### About this Release

#### About this Release

The MPS adopts a multi-stage design in which the sample is clustered within first stage units. A high level of clustering will reduce costs in travel between first stage units which account for a high proportion of overall costs. However this will result in higher variances as fewer first stage units will be selected (for a fixed total sample size). On the other hand a low level of clustering will cost more in travel but will produce lower variances on estimates.

The objective of the optimisation process is to determine the level of clustering that achieves the best trade-off between costs and variance by minimising total cost for a fixed level of accuracy. Key components of the optimisation process are the cost and variance models which provide the link between sample sizes at each stage of selection and resulting costs and variances, respectively. As survey accuracy deteriorates over the life of a design, the prime objective of the sample redesign is to return to the level of accuracy achieved at the beginning of the current (1996) design period.

---

© Commonwealth of Australia

All data and other material produced by the Australian Bureau of Statistics (ABS) constitutes Commonwealth copyright administered by the ABS. The ABS reserves the right to set out the terms and conditions for the use of such material. Unless otherwise noted, all material on this website – except the ABS logo, the Commonwealth Coat of Arms, and any material protected by a trade mark – is licensed under a Creative Commons Attribution 2.5 Australia licence